

TSVETKOV, M.V

26-58-4-42/45

AUTHOR: Sokolov, A.V., Candidate of Economic Sciences (Moscow)

TITLE: Original Work on the History of the Landscape (Original'nyy trud po istorii landshafta)

PERIODICAL: Priroda, 1958, Nr 4, pp 119-120 (USSR)

ABSTRACT: This is a critical review of the book "The Change in the Distribution of Forests in European Russia from the End of the 17th Century Until 1914", by M.V. Tsvetkov, which was published in 1957 by the Academy of Sciences, USSR. The book deals with the development of forestry in Russia before the Revolution, giving a detailed account of the distribution of forests.

AVAILABLE: Library of Congress

Card 1/1 1. Forestry-Development-USSR

TSVETKOV, N.

Lumber transportation in self-unloading barges. Rech.transp.  
14 no.2:7-10 P '55. (MIRA 8:5)

1. Inzhener Glavlesosplava.  
(Lumber - Transportation)

TSVETKOV, N.

Improved bow of the "Minsk-50" electric saw. Mas.ind.SSSR 33 no.5:  
51 '62. (MIRA 15:12)

1. Minskiy opytno-eksperimental'nyy zavod "Prodmash".  
(Meat industry—Equipment and supplies)

UKHATOV, V. (Kaliningrad); MARTYNOV, L.; GOLOVCHENKO, V.; BEZMENOV, V.  
(Komsomol'sk-na-Amure); GETMANENKO, V.; TSVETKOV, N. (g. Kalinin)  
Bezuglov, P.; BORODAVKIN, S. (Leningrad)

Readers' letters. Pozh. delo 7 no. 1:31-32 Ja '60.

(MIRA 14:2)

1. Zamestitel' predsedatelya soveta D obrovol'nogo pozharnogo  
obshchestva, Rostov-na-Donu (for Martynov). 2. Rayonnyy  
pozhar'nyy inspektor, Kasimov, Ryazanskaya oblast' (for  
Golovchenko). 3. Starshiy master pozhar'no-ispytatel'noy  
stantsii, Novosibirsk (for Getmanenko).  
(Fire prevention)

YEGOROV, N., kand.tekhn.nauk; TSVETKOV, N., inzh.

Landing stage superstructures made of lightweight reinforced concrete.  
Rech. transp. 19 no.11:26-28 N '60. (MIRA 13:11)

(Hydraulic structures)  
(Reinforced concrete construction)

TSVETKOV, N., (Engr-Vice Adm)

Author of article, "Radiomen of the Navy," honoring Soviet Navy Day, 25 Jul 1954. After a brief recounting of the history of the Soviet Navy, the author mentioned some of the outstanding enlisted radio operators of the navy, told of their exploits and activities, and then paid tribute to the work of Dosaaf USSR in training radiomen. (Radio, Moscow, No 7, Jul 54)

SO: SUM No. 239, 13 Oct 1954

TSVETKOV, N., inzhener-vitse-admiral.

Navy radio operators. Radio no.7:8-9 JI '54.  
(Russia--Navy) (Radio operators)

(MLRA 7:7)

*TSVETKOV, N.*

**USSR/** Miscellaneous - Radio operators

**Card 1/1** : Pub. 89 - 5/29

**Authors** : Tsvetkov, N., Rear Admiral, Engineer

**Title** : Navy radio operators

**Periodical** : Radio 7, 8-9, July 1954

**Abstract** : This is a propaganda article, extolling the merits and fighting qualities of the Soviet Navy during the last war and praising the work of the presently operating signal-communication branch of the Navy, and its individual radio-specialists.

**Institution** : ...

**Submitted** : ...



TSVETKOV, N., Engr-Vice Adam

TSVETKOV, N.-

Author of article, "Improve the Training of Naval Communications Personnel," on the importance, during an operation, of communications between all branches of arms. Cited is an incident of World War II, when, during a landing operation commanded by Officer KUZNETSOV, radio operators who landed with the first troops were able to direct effective fire on German positions. Also mentioned in the article is Officer SOLODOVNIKOV, who commands a unit in which there are several subunits of communications men. (Krasnaya Zvezda, 11 Dec 53)

SO: SUM 152, 25 June 1954

TSVETKOV, N.

"TElegraphists in the Navy."

So. Radio, Vol. 7, p. 5, 1952

NIKITINA, Ye.A.; TSVETKOV, N.A.

Viscosimetric study of the systems: isomeric  $\alpha$  - and  $\beta$ -forms of ammonium luteophosphorotungstates - water. Zhur.neorg.khim. 5 no.2:474-476 F '60. (MIRA 13:6)

1. Vtoroy moskovskiy meditsinskiy institut im. N.I.Pirogova.  
(Ammonium phosphotungstate)

NIKITINA, Ye.A.; TSVETKOV, N.A.

Potentiometric titration of  $\beta$ -luteophosphotungstic acid.  
Zhur. neorg. khim. 8 no.10:2285-2289 0 '63. (MIRA 16:10)

1. 2-y Moskovskiy gosudarstvennyy meditsinskiy institut im. N.I.  
Pirogova.  
(Phosphotungstic acids) (Potentiometric analysis)

NIKITINA, Ye.A.; TSVETKOV, N.A.

Study of the system  $\beta$ -luteophosphotungstic acid - water by  
solubility and viscosity methods. Zhur.neorg.khim. 5 no.6:  
1304-1310 Je '60. (MIRA 13:7)

1. Vtoroy Moskovskiy meditsinskiy institut im. N.I.Pirogova.  
(Phosphotungstic acid)

TSVETKOV, N. A.

Dissertation defended for the degree of Candidate of Chemical Sciences  
at the Institute of General and Inorganic Chemistry imeni  
N. S. Kurnakov in 1962:

" Investigation in the Field of Luteophosphate-tungstates, 2-Phosphate-  
18-tungstates."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

NIKITINA, Ye.A.; TSVETKOV, N.A.

Study of the system hexa-substituted sodium  $\beta$ -luteophosphotungstate  
- water by solubility and viscosity methods. Zhur.neorg.khim. 5  
no.6:1311-1315 Je '60. (MIRA 13:7)

1. Vtoroy Moskovskiy meditsinskiy institut im. N.I.Pirogova.  
(Phosphotungstic acid)

S/078/63/008/001/012/026  
B117/B108

AUTHORS: Nikitina, Ye. A., Tsvetkov, N. A.

TITLE: Some properties of isomeric  $\alpha$ - and  $\beta$ -ammonium luteo phosphotungstates

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 1, 1963, 105-109

TEXT: It has been shown that the  $\beta$ -modification of ammonium luteo phosphotungstates (ALPT) is polymorphous, forming two crystal types of equal chemical composition  $(\text{NH}_4)_6\text{H}_6[\text{P}_2\text{O}_2(\text{W}_2\text{O}_7)_9] \cdot 11\text{H}_2\text{O}$  and equal properties:

$\beta_1$ -crystals are mainly formed by slow crystallization from a large quantity of solution, their size being 2-3 cm.  $\beta_2$ -crystals reach a size of 1-2 cm and tend to intergrowths. The  $\alpha$ -form consists of only one crystal type. These crystals are small (1-2 mm) hexagonal prisms bounded by three pinacoids. They tend to intergrowths. Their color is associated with the easy reducibility of the  $\alpha$ -form, and may be yellow to intensely blue depending on the conditions of production. The crystals of the  $\beta$ -form are less sensitive to reducing agents. Their color is bright yellow. An

Card 1/2



Some properties of isomeric ...

8/078/63/008/001/012/026  
B117/B108

analysis and comparison of IR absorption spectra showed that the two isomers of ALPT had a different structure of the internal coordination sphere which also differed from that of saturated phosphotungstates. The piezoelectric properties of the  $\alpha$ - and  $\beta$ -forms are also different, and depend on the symmetry of their molecular structure: the  $\alpha$ -form is not or little piezoactive; the less symmetric  $\beta$ -form, however, is highly piezoactive. The physicochemical properties of the ALPT isomers investigated are similar to those of cis-trans-isomers of other complex compounds. There are 3 figures and 2 tables.

ASSOCIATION: Vtoroy moskovskiy meditsinskiy institut im. N. I. Pirogova  
(Second Moscow Medical Institute imeni N. I. Pirogov)

SUBMITTED: February 6, 1962

Card 2/2

5(4)

SOV/78-4-4-21/44

AUTHORS: Nikitina, Ye. A., Tsvetkov, N. A.

TITLE: The Equilibria in the Systems: Isomeric  $\alpha$  and  $\beta$  Forms of Ammonium Luteophosphotungstate - Water (Ravnovesiya v sistemakh: Izomernyye  $\alpha$ - i  $\beta$ -formy lyuteofosfornovol'framata ammoniya - voda)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 839-844 (USSR)

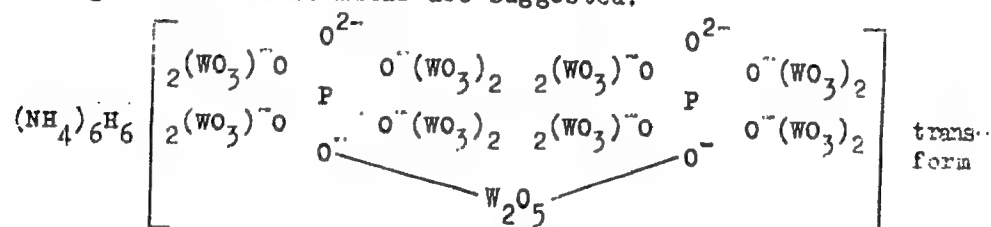
ABSTRACT: The authors investigated the equilibria in systems composed of the isomeric  $\alpha$  and  $\beta$  forms of ammonium luteophosphotungstic acid and water. The solubilities of the  $\alpha$  and  $\beta$  forms of this compound were investigated at 0-90°. The results are summarized in table 1 and figure 1. At 80 and 90° a completely irreversible conversion of the  $\alpha$  form into the  $\beta$  form takes place. From 0 to 90° the  $\beta$  form of the ammonium luteophosphotungstate forms four crystal hydrates:  $\text{H}_6(\text{NH}_4)_6[\text{P}_2\text{O}_2(\text{W}_2\text{O}_7)_9] \cdot 12\text{H}_2\text{O}$ ; 11; 10 and  $9\text{H}_2\text{O}$ . The  $\alpha$  form of this compound forms only as the hydrate:  $(\text{NH}_4)_6\text{H}_6[\text{P}_2\text{O}_2(\text{W}_2\text{O}_7)_9] \cdot 15\text{H}_2\text{O}$ . The  $\alpha$  form is converted

Card 1/4

SOV/78-4-4-21/44

The Equilibria in the Systems: Isomeric  $\alpha$  and  $\beta$  Forms of Ammonium Luteo-phosphotungstate - Water

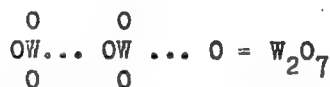
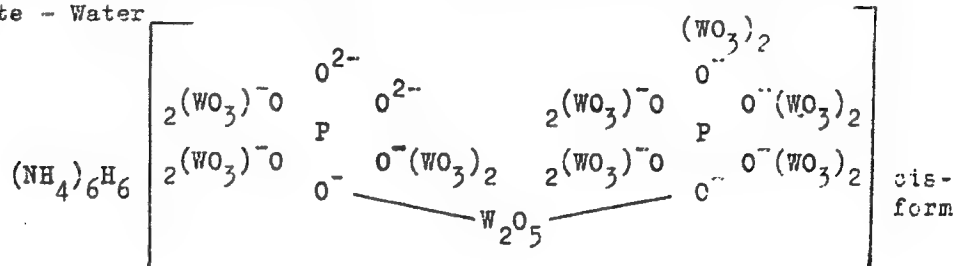
at  $-75^\circ$  to the  $\beta$  form (actually, to the hydrate which at this temperature corresponds to the  $\beta$  form). The  $\alpha$  form is less soluble than the  $\beta$  form. The existence of both forms of ammonium luteophosphotungstate is explained in terms of geometric isomerism. For the isomers of this compound the following structural formulas are suggested:



Card 2/4

SOV/78-4-4-21/41

The Equilibria in the Systems: Isomeric  $\alpha$  and  $\beta$  Forms of Ammonium Luteo-phosphotungstate - Water



There are 1 figure, 1 table, and 13 references, 6 of which are Soviet.

ASSOCIATION: Vtoroy Moskovskiy meditsinskiy institut im. N. I. Pirogova  
(Second Moscow Medical Institute imeni N. I. Pirogov)

Card 3/4

NIKITINA, Ye.A.; TSVETKOV, N.A.

Thermographic study of isomeric ammonium luteophosphotungstates  
and  $\beta$ -luteophosphotungstic acid. Zhur.neorg.khim. 7 no.2:325-  
332 F '62. (MIRA 15:3)

1. Vtoroy Moskovskiy meditsinskiy institut imeni Pirogova.  
(AMMONIUM PHOSPHOTUNGSTATE)  
(PHOSPHOTUNGSTIC ACID) (THERMAL ANALYSIS)

NIKITIN, Ye.A.; TSVETKOV, N.A.

Preparation of ammonium luteophosphotungstates (phospho-~~q~~-tungstates).  
Zhur.neorg.khim. 3 no.12:2698-2706 D '58. (MIRA 12:1)

1. 2-y Moskovskiy meditsinskiy institut imeni N.I. Pirogova.  
(Ammonium phosphotungstates)

NIKITINA, Ye.A.; TSVETKOV, N.A.

Equilibria in systems: isomeric - and -forms of ammonium  
luteophosphotungstates - water. Zhur. neorg. khim. 4 no.4:839-844  
Ap '59. (MIRA 12:5)

1. Vteroy Moskevskiy meditsinskiy institut im. N.I. Pirogova.  
(Ammonium phosphotungstates)  
(Phase rule and equilibrium)

AUTHORS:

Nikitina, Ye. A. Tsvetkov, N. A.,  
Konyshev, V. A.

SOV/79-29-2-3/71

TITLE:

On Compounds of Luteo Phosphotungstic Acid With Urea and Glycocoll (O soyedineniyakh lyuteofosfornovol'framovoy kisloty s mochevinoy i glikokolem)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 357-364 (USSR)

ABSTRACT:

The compounds of the above acid  $H_{12}[P_2O_2(W_2O_7)_9] \cdot xH_2O$  (herein after called l.f.w.) with nitrogenous organic bases are only sparsely discussed in publications. Rosenheim and Jaenicke (Ref 1) synthesized the triple-substituted salt of guanidine from the empirical formula  $3(CN_3H_6)O \cdot P_2O_5 \cdot 18WO_3 \cdot 10H_2O$ , which was obtained in the form of yellow prisms. The action of 5 mol caustic soda and an excess of guanidine chloride upon the free acid yielded a difficultly soluble guanidine salt, which separated from the solution in the crystalline state as a compound of the empirical formula  $5(CN_3H_6)_2O \cdot P_2O_5 \cdot 18WO_3 \cdot 18H_2O$ . In this respect, the l.f.w. solution differs considerably from the phosphotungstic acid of the saturated series  $H_7[P(W_2O_7)_6] \cdot xH_2O$ , which has been often described as a filler

Card 1/3



On Compounds of Luteo Phosphotungstic Acid With  
Urea and Glycocoll

SOV/79-29-2-3/71

of organic bases, amino acids and other compounds, and has been partially specified in the present paper (Ref 2). The purpose of the work under review was the synthesis of the compounds of the l.f.w. acid with urea and glycocoll, which have hitherto been unknown. The analogous compound phosphotungstic acid is not easily soluble in water and separates if the urea concentration in the solution exceeds the 2 % limit (Ref 3). As is known, urea yields salts with strong acids upon the reaction with an equivalent of acid. Well-known are its difficultly soluble salts of the formula  $\text{CO}(\text{NH}_2)_2 \cdot \text{HNO}_3 \cdot 2\text{CO}(\text{NH}_2)_2 \cdot \text{H}_2\text{C}_2\text{O}_4$  etc., which are decomposed by water (Ref 4) according to certain indications. Salts of the l.f.w. acid were thus synthesized with urea. On the basis of investigation results, these salts must be considered as products of the affiliation of urea to the l.f.w. acid. The crystalline salts of this acid were obtained with glycocoll. On the basis of the acid properties of the compounds obtained, the salts of glycocoll can be observed to form thanks to its alkaline properties. In the case of highly substituted salts

Card 2/3

On Compounds of Luteo Phosphotungstic Acid With  
Urea and Glycocoll

SOV/79-29-2-3/71

of glycocoll, the glycocoll molecules are partially polymeri-  
zed on the expense of the hydrogen bonds. There are 9 figures,  
5 tables, and 11 references, 5 of which are Soviet.

ASSOCIATION: 2-y Moskovskiy meditsinskiy institut (Moscow Second Medical  
Institute)

SUBMITTED: January 13, 1958

Card 3/3

TSVETKOV, N.A.; KONYSHEV, V.A.

Reaction of glycol with phosphomolybdic acid. Zhur.ob.khim.  
26 no.9:2555-2559 S '56. (MLRA 9:11)

1. 2-y Moskovskiy meditsinskiy institut.  
(Glycine) (Phosphomolybdic acid)

AUTHORS:

Nikitina, Ye. A., Tsvetkov, N. A.

SOV/78-3-12-17/36

TITLE:

Concerning the Preparation of Luteophosphorous Tungstate Ammonium (Phosphorous-9-Tungstate) (O poluchenii lyuteofosforovol'framatov (fosforno-9-vol'framatov) ammoniya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2698-2706 (USSR)

ABSTRACT:

The method of Wu and Souchay for preparing luteophosphorous tungstate ammonium was tested and improved. With the improved method the yield of  $\alpha$ - and  $\beta$ -forms of luteophosphorous tungstate is 98%. The product of this method of preparation is free from Cl and  $H_3PO_4$  impurities, and has the composition  $(NH_4)_6H_6[P_2O_2(W_2O_7)_9] \cdot xH_2O$ . The disadvantage of both methods is their exceptionally slow crystallization process (by the method of Wu two weeks, by the method of Souchay two to three months). A fast method for preparing 88%  $\alpha$ -form and 11.8%  $\beta$ -form of luteophosphorous tungstate ammonium was developed. For separating the  $\alpha$ - and  $\beta$ -forms fractional crystallization was used. In the first fraction the  $\alpha$ -form crystallizes with a greater degree of impurity from the  $\beta$ -form. In the second

Card 1/2

Concerning the Preparation of Luteophosphorous Tungstate Ammonium (Phosphorous-9-Tungstate) SOV/78-3-12-17/36

and third fraction the  $\beta$ -form precipitates. The  $\alpha$ -form of the luteophosphorous tungstate ammonium is stable in the solid state as the hydrate with 9 molecules of water, while the  $\beta$ -form is a solid hydrate with 8 molecules of water. The  $\alpha$ -form is irreversibly converted to the  $\beta$ -form in aqueous solution; an increase in temperature accelerates this process. The  $\alpha$ - and  $\beta$ -forms crystallize out of the aqueous solution as the unstable hydrates with 15 and 11 molecules of water, respectively. The aqueous solutions of the  $\alpha$ - and  $\beta$ -forms are inactive optically. There are 4 tables and 13 references, 3 of which are Soviet.

ASSOCIATION: 2-y Moskovskiy meditsinskiy institut im. N. I. Pirogova  
(2<sup>nd</sup> Moscow Medical Institute imeni N. I. Pirogov)

SUBMITTED: October 23, 1957

Card 2/2

**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757220006-1**

**APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757220006-1"**

NIKITINA, Ye.A.; TSVETKOV, N.A.

Some properties of the isomers of  $\alpha$ - and  $\beta$ -ammonium luteophosphotungstates.  
Zhur.neorg.khim. 8 no.1:105-109 Ja '63. (MIRA 16'5)

1. Vtory moskovskiy meditsinskiy institut imeni N.I.Pirogova.  
(Ammonium compounds) (Phosphotungstates)

NIKITINA, Ye.A.; TSVETKOV, N.A.

Preparation of sodium  $\beta$ -luteophosphotungstate. Zhur.neorg.  
khim. 10 no.12:2648-2652 D '65. (MIRA 19:1)

1. Vtoroy Moskovskiy meditsinskiy institut imeni Pirogova.



TSVETKOV, N. E.

Glanders 2., dop. i ispr. izd. Moskva, Sel'khozgiz, 1947. 259 p.

TSVETKOV, N.E.

23543. SCSTOYANIYE PROCTIVOSTOILENIYA Ch-KOGO IMMUNITETA U YICICLNIYAYA,  
NARODIVSHEGCSYA OT IMMUNIZIROVANNYYKH MATOK. SBOBNIK NAUCH.  
TRUDOV (LENINGR. VET. IN-T), VYP. 10, 1949, C.87-94

SC: LETOPIS NO. 31, 1949.

GOLOSOV, A.V.; SOKOLOV, I.I.; USPENSKAYA, A.N.; TSVETKOV, N.G.; SUMAROKOVA, M.Ya., redaktor; CHERNYAVSKIY, M.N., redaktor; LYUDKOVSKAYA, N.I., tekhnicheskiiy redaktor.

[Textbook of the Latin language for secondary medical schools]  
Uchebnik latinskogo iazyka dlia srednikh meditsinskikh uchebnykh  
zavedenii. Pod obshchei red. M.IA.Sumarokovoi. Moskva, Gos.izd-vo  
med.lit-ry, 1957. 157 p. (MIRA 10:11)  
(Latin language)

TSVETKOVA, N.I., kand.tekhn.nauk, dotsent

Concerning Z.A.Khandov's book "Marine internal combustion engines."  
Energomashinostroenie 9 no.9:31, 48 S '63. (MIRA 16:10)

MARTSINKOMENE, E.I.; TSVETKOV, N.I.

Using vat dyes and indigosols for dyeing rayon crepe fabrics in  
mechanical dye becks. Obm. tekhn. opyt. [MLP] no.9:20-25 '56.  
(MIRA 11:10)

(Dyes and dyeing--Rayon)

TSVETKOV, N. I Dr.

Razvitie Sovetskogo Lesosplava (Development of Soviet Timber-Rafting)

174 p. 1.00

SO: Four Continent Book List, April 1954

KUZNETSOV, Yu.A.; MAKAROV, A.A.; MELENT'YEV, L.A.; MERENKOV, A.P.; NEKRASOV, A.S.; TSVETKOV, N.I.; KUZNETSOV, Yu.A.; MAKAROVA, A.S.; KARPOV, V.G.; MANSUROV, Yu.V.; SYROV, Yu.P.; KHRILEV, L.S.; TSVETKOVA, L.A.; VOYTSEKHOVSKAYA, G.V.; YEFIMOV, N.T.; LEVENTAL', G.B.; KHANAYEV, V.A.; BELYAYEV, L.S.; GAMM, A.Z.; KARTELEV, B.G.; KRUMM, L.A.; LIOPO, T.N.; SVIRKUNOV, N.N.; DRUZHININ, I.P.; KONOVALENKO, Z.P.; KHAM'YANOVA, N.V.; SHVARTSBERG, A.I.; NIKONOV, A.P.; STARIKOV, L.A.; POPYRIN, L.S.; PSHENICHNOV, N.N.; TROSHINA, G.M.; CHEL'TSOV, M.B.; SVETLOV, K.S.; SUMAROKOV, S.V.; TAKAYSHVILI, M.K.; TOLMACHEVA, N.I.; KHASILEV, V.Ya.; KOSHELEV, A.A.; KUDINOVA, L.I., red.

[Methods for using electronic computers in the optimization of power engineering calculations] Metody primeneniia elektronno-vychislitel'nykh mashin pri optimizatsii energeticheskikh raschetov. Moskva, Nauka, 1964. 318 p.

(MIRA 17:11)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Energeticheskii institut. 2. Chlen-korrespondent AN SSSR (for Melent'yev).

TSVETKOVA, N. K.

Physical Chemistry

Dissertation: "Investigation of Physicochemical Analysis of the Reaction of Cyclic Secondary and Tertiary Amins With Acids and Aromatic Nitro Compounds." Cand Chem Sci, Rostov State U, Rostov-on-Don, 1953. (Referativnyy Zhurnal--Khimiya, Moscow, No 3, Feb 54)

SO: SUM 213, 20 Sept 1954



PHASE I BOOK EXPLOITATION SOV/223

Moscow. Vysshaya tekhnicheskoye uchilishche

Baschey detalay i mekhanizmov tochnyyh priborov; sbornik statey (Design of Parts and Mechanisms of Precision Instruments; Collection of Articles) Moscow, Mashiz, 1960. 260 p. 5,000 copies printed.

Ed. (this page): T. A. Gerasimov, Doctor of Technical Sciences, Professor; Ed. (this page): Ya. G. Alverov, Engineer; Tech. Ed.: A. P. Dvornov, Managing Ed. for literature on Machine Building and Instrument Making (Mashiz): N. V. Polovnev, Engineer.

PURPOSE: This collection of articles is intended for scientific workers and engineers engaged in instrument making.

COVERAGE: The results of investigations on making instruments with complex and difficult perfect parts, parts, and mechanisms, their design, construction, and testing. The book contains articles covering theory and methods of optical control. The engagement, a new method of manufacturing toothed wheels with alternating ratio within one revolution, a universal method for designing an oscillating system for stability by means of complex variables, and precision methods for designing brake systems are included. The book contains a number of articles on the application of the above methods to the design of instruments. The articles are accompanied by Soviet and non-Soviet references. No personalities are mentioned.

Author: I. P. Candidate of Technical Sciences, Docent. Design of a Fine Oscillating System. Mashiz, 1960. 50 p. The exact as well as an approximate analytical method for the above design are presented.

Tolgov, A. M., Candidate of Technical Sciences, Docent. Theory and Practical Methods of Balancing the "Balance Wheel-Spiral Spring" Oscillating System in Timepieces. A development of the problems concerning the effect of the unbalance of the oscillating system on the running of a watchwork is presented.

Tsvetkov, N. M., Engineer. Design of Centrifugal Governor. The problem of methodology used for the perfected design calculation of the brake centrifugal governors in instrument making is discussed. The motion of the governor mechanism is investigated (including the governor and lever) by taking into account inertial and frictional losses in the motion mechanism. Sample calculations using simplified design formulas are presented.

Valdinskii, A. S., Candidate of Technical Sciences, Docent. "Spring Hinges" and Mechanisms in Precision Instruments. "Spring hinges" are crossed cantilever springs. The design of spring hinges in small angular movements. The design of compensating the drop in the force during measuring in instruments with spring mechanisms are discussed.

Chetnikov, V. N., Candidate of Technical Sciences. The Reversing Pneumatic Powder Clutch. The theory and design of the above clutch are presented.

Card 4/6

TSVETKOV, N.N.

Expanding the system of public health institutions in Moscow.  
Gor.khoz.Mosk. 36 no.11:9-11 N '62. (MIRA 15:12)

1. Zamestitel' zaveduyushchego Gorodskim otdelom zdravookhraneniya,  
Moskva.

(Moscow—Hospitals)

TSVETKOV, N.M.

Graphico-analytical method of the determination of wire  
speed and acceleration during winding. Izv. vys. ucheb.  
zav.; prib. 8 no.3:134-137 '65. (MIRA 18:11)

1. Moskovskiy aviatsionnyy institut.

TSVETLOV, N. M.

"Investigation of the Technological Process for Manufacturing the Windings of Aircraft Electric Instruments." Sub 25 Jun 51, Moscow Order of Lenin Aviation Institute Sergo Ordzhonikidze

*and Tech Sci*  
Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

PROBABLE ALL, NO 1/1

Category: USSR / Physical Chemistry - Crystals

B-5

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29767

Author : Bogoroditskiy N. P., Fridberg I. D., Tsvetkov N. M.

Inst : not given

Title : Anomalous Polarization in Polycrystalline Titanium Dioxide

Orig Pub: Zh. tekhn. fiziki, 1956, 26, No 9, 1890-1901

Abstract: Dielectric constant  $\epsilon$  and tangent of losses  $\text{tg } \delta$  were determined for pure  $\text{TiO}_2$  (I) and  $\text{I}$  with additions of oxides. The purer the  $\text{I}$  the lower are  $\epsilon$  and  $\text{tg } \delta$ . Anomalously large  $\epsilon$  and  $\text{tg } \delta$  are found in specimens of  $\text{I}$  containing  $\text{Nb}_2\text{O}_5$  or  $\text{CaO}$ . Addition of  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3$  and  $\text{ZrO}_2$  produce no anomaly. X-ray diffraction study showed formation of a solid solution only in the case of an addition of  $\text{Nb}_2\text{O}_5$ . It is shown that anomalous polarization of  $\text{I}$  is due to partial reduction of  $\text{I}$  in the presence of  $\text{Nb}_2\text{O}_5$  or  $\text{CaO}$ .

Card : 1/1

-45-

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757220006-1

~~SECRET~~ ~~ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED~~

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757220006-1"

134212-0, 14-171.

SUBJECT USSR / PHYSICS CARD 1 / 3 PA - 1381  
 AUTHOR BOGORODIZKIJ, N.P., FRIEDBERG, I.D., ZWETKOW, N.M.  
 TITLE On the Problem of Anomalous Polarization in the Polycrystalline Peroxide of Titanium.  
 PERIODICAL Zhurn.techn.fis, 26, fasc. 9, 1890-1901 (1956)  
 Issued: 10 / 1956 reviewed: 10 / 1956

In connection with contradictions found in literature the authors investigated the influence exercised by admixtures of oxides of the metal groups II., III., and V. on the electric properties of polycrystalline peroxide of titanium. Chemically pure reagents were used as additions of foreign oxides. The samples were mixed in an agate mortar with distilled water, after which they were dried and pressed. The thickness was 1,0 to 1,5 mm. Burning was carried out in electric silican carbide ovens at 1200 to 1450° C in platinum vats. Burnt-in silver layers served as electrodes. The degree of purity was controlled by spectral analysis and structure was controlled by X-ray analysis. One of the basic problems is that of the characteristic of the spectrally pure peroxide of titanium with a permitted low content of admixtures. A table contains the data on the dielectric constant and the tgδ for various frequencies at room temperature as well as for a specific space resistance at 100° C of the titanium peroxide of various brands. A curve represents the dependence of ε and tgδ on temperature. The same was done by further curves for titanium peroxide with various admixtures. These curves show that titanium peroxide with admixtures of Nb<sub>2</sub>O<sub>5</sub> and CaO has anomalous electric properties. Additions of Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub> and ZrO<sub>2</sub> remove these anomalies.

✓  
Zurn.techn.fis, 26, fasc.9, 1890-1901 (1956) CARD 2 / 3

PA - 1381

Summary:

- 1.) Specially purified (spectrally pure) titanium peroxide is characterized by important electric properties within a wide temperature- and frequency range, and possesses no anomalous electric properties.
- 2.) An anomalous polarization in  $TiO_2$  is found in the cases of additions of  $CaO$  and  $Nb_2O_5$ , which is connected with the process of partly recomposing the  $TiO_2$  in the presence of these oxides.
- 3.) An anomalous polarization occurs also in pure titanium peroxide which has no foreign admixtures, namely if it is treated thermally until it attains a light blue color in a reducing atmosphere.
- 4.) The additions of  $Al_2O_3$  and  $Fe_2O_3$  to titanium peroxide, providing the latter contains  $Nb_2O_5$  or  $CaO$ , lead to a considerably lower restoration of  $TiO_2$  because of the compensating effect of the trivalent oxides. In this case no anomalous polarization is observed.
- 5.) An anomaly of the electric properties of titanium peroxide with admixtures is observed in the case of technical and acoustic frequencies. Within the range of radio frequencies the  $tg\delta$  does not increase but is reduced in the case of all compounds.
- 6.) A carefully carried out X-ray structural analysis of titanium peroxide with admixtures of foreign oxides ( $CaO$ ,  $BaO$ ) produced no loosening of the crystalline rutile lattice.



• <sup>/</sup>Žurn.techn.fis, 26, fasc.9, 1890-1901 (1956) CARD 3 / 3 PA - 1381

7.) It has been proved by experiment that within the range of sufficiently large concentrations of  $\text{Fe}_2\text{O}_3$ ,  $\text{Nb}_2\text{O}_5$  and  $\text{Al}_2\text{O}_3$  additions the presence of a phase - that of rutile - becomes noticeable. The solid solution occurs distinctly in addition of  $\text{Nb}_2\text{O}_5$ .

8.) If the low frequencies, at which the anomalous processes of polarization in titanium peroxide with admixtures have been observed, are taken into account together with the conductivity of the anomalous  $\text{TiO}_2$ , it may be assumed that the most probable mechanism of dielectric losses is the electron-relaxation mechanism.

INSTITUTION:

AM4016086

BOOK EXPLOITATION

S/

Gavrilov, A. N.; Ushakov, N. N.; Tsvetkov, N. M.

Technology of Aviation Electrical Equipment (Tekhnologiya aviatsionnogo elektro-oborudovaniya), Moscow, Oborongiz, 1963, 523 p., illus., biblio. Errata slip inserted. 10,000 copies printed.

TOPIC TAGS: electrical equipment, casting, cold stamping, hot stamping, plastic, ultrasonic treatment, machining, coating, bushing, gear, threaded part, spring, housing, permanent magnet, winding, rotor, assembly, automation

PURPOSE AND COVERAGE: The book presents the basic problems of designing the technological processes applicable to aviation electrical equipment construction, the technology of fabricating standard and special components, problems of assembly, mounting, and inspection of aircraft electrical equipment. It reflects the experience of domestic and foreign electrical equipment construction and the results of certain research. Great attention is given to raising the quality and lowering the cost of making components by using progressive technological processes, mechanization and automation. The book is a text for students in aviation higher educational institutions and departments and can be useful for workers in industry.

Card 1/4

AM4016086

TABLE OF CONTENTS [abridged]:

Foreword - - 3

Introduction - - 5

Part 1. Fundamentals of designing technological processes in electrical equipment construction - - 7

Ch. I. Basic concepts of the technological process and its design - - 7

Ch. II. Theoretical problems of designing technological processes for fabricating articles - - 15

Ch. III. Fundamentals of accessory design - - 48

Ch. IV. Basic directions of the development of technologies for electrical equipment construction - - 66

Ch. V. Automation and mechanization in electrical equipment construction - - 96

Part 2. Fabrication of aviation electrical equipment components

Ch. VI. Casting - - 128

Ch. VII. Cold stamping - - 148

Ch. VIII. Hot stamping and other methods of pressure working metals -- 170

Ch. IX. Fabrication of parts from plastics - - 177

Ch. X. Electrical and ultrasonic processes - - 191

Ch. XI. Turning - - 198

Card 2/4

AM4016086

- Ch. XII. Milling - - 207
- Ch. XIII. Boring - - 214
- Ch. XIV. Cleaning and finishing processes - - 220
- Ch. XV. Surface coatings and chemical-thermal treatment of the surface layer - - 234
- Part 3. Fabrication of standard components of aviation electrical equipment
- Ch. XVI. Shafts - - 245
- Ch. XVII. Bushings - - 253
- Ch. XVIII. Gear trains - - 260
- Ch. XIX. Threaded parts - - 279
- Ch. XX. Springs - - 285
- Ch. XXI. Housings - - 294
- Part 4. Fabrication of special components of aviation electrical equipment
- Ch. XXII. Technology of making permanent magnets - - 302
- Ch. XXIII. Technology of making magnetic circuits - - 319
- Ch. XXIV. Technology of making contacts - - 336
- Ch. XXV. Winding technology - - 349
- Part 5. Assembly and mounting of aviation electrical equipment
- Ch. XXVI. Designing assembly processes - - 381
- Ch. XXVII. Standard assembly processes - - 402

Card 3/4

AM1016086

Ch. XXVIII. Technology of making commutators - - 410  
Ch. XXIX. Technology of assembling the rotors of electrical machines - - 424  
Ch. XXX. Assembly of stators and general assembly of electrical machines - - 442  
Ch. XXXI. Assembly of standard components and parts of aviation electrical  
equipment - - 461.  
Ch. XXXII. Basic problems of mounting aviation electrical equipment - - 490  
Appendix - - 512  
Bibliography - - 515

SUB CODE: EE, ML

SUBMITTED: 12 Jul 63

NR REF SOV: 127

OTHER: 000

DATE ACQ: 20 Mar 64

Card 4/4

TSVETKOV, N. N.

AUTHOR: Tsvetkov, N. N.

119-1-5/13

TITLE: Calculating the Centrifugal Regulators for Velocity Control  
(Raschet tormoznykh tsentrobezhnykh regulyatorov skorosti priborov)

PERIODICAL: Priborostroyeniye, 1958, Nr 1, pp. 13-17 (USSR)

ABSTRACT: A more exact method is deduced theoretically in order to be able to calculate the projected centrifugal regulators for velocity control. The motion of the regulating mechanism is regarded on the condition that the regulator and the motor mechanism operate simultaneously together. Besides, the changes of the moments of moving forces, the changes of the moments of inertia with increasing speed of the axes, the inertia of the mechanisms as well as the friction losses in the mechanisms are taken into account.

As initial data for the calculation of the regulator the nominal number of revolutions, the load factor of the rotating axis, the operation time as well as the character of the changes of the moments of forces are used.

The advantage of this work is to be seen in the fact that the formulae deduced could be largely simplified on

Card 1/2

Calculating the Centrifugal Regulators for Velocity Control 119-1-5/13

certain conditions and that their use becomes much easier.

A comparison between the regulators calculated by means of the method mentioned and the values measured experimentally did not show great differences. There are 7 figures and 3 references, all of which are Slavic.

AVAILABLE: Library of Congress  
1. Regulators-Application

Card 2/2

Tsvetkov, N N

TSVETKOV, N N

Designing centrifugal braking speed controllers. Priborostroenie  
no.1:13-17 Ja '58. (MIRA 11:2)  
(Automatic control)



TS'ETKOV, N. N., KROZER, S. P., TEREHT'YEV, L. S.

TS'ETKOV, V. N., KROZER, S. P., TEREHT'YEV, L. S.

Polymers and Polymerization.

Effect of concentration on the rate of diffusion of some polymers in a solution. Dokl. AN SSSR 85. No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 ~~1953~~, Uncl.

TSVETKOV, N. P., Cand Tech Sci -- (diss) "Research into light ship-building concrete types." Gor'kiy, State Inst of Water Transport Engineers, 1960. 19 pp with graphs; 200 copies; price not given; (XL, 18-60, 153)

FLORINSKAYA, Z.A., dots., kand. fiz.-matem. nauk; TSVETKOV,  
N.P., red.

[Hydrostatic equations in engineering problems; a practical  
manual for students in mechanics and operations courses]  
Uravneniia gidrostatiki v tekhnicheskikh zadachakh; uchebno-  
metodicheskoe posobie dlia studentov mekhanicheskoi i eks-  
pluatatsionnoi spetsial'nosiei. Gor'kii, Gor'kovskii in-t  
inzhenerov vodnogo transp., 1963. 49 p. (MIRA 17:9)

*M*

**\*Conditions for the Electrodeposition of the Alloy Mn-Ni.**  
 D. N. Gritsan and N. S. Tyutkoy (Zhur. Priklad. Khim., 1949, 22, (6), 600-604).—[In Russian]. Preliminary experiments established that unless  $\text{NH}_4^+$  ions are present it is impossible to obtain satisfactory Mn-Ni deposits. A bath containing Mn, Ni, and  $\text{NH}_4$  sulphates was therefore used, with a brass (in some experiments, Cu or Fe) cathode (working area 35 cm<sup>2</sup>) and two graphite anodes, the bath temp. being 20° C. After electrolysis the cathode was washed, dried, and the deposit dissolved in a mixture of  $\text{H}_2\text{SO}_4$  (1:20) 320,  $\text{HNO}_3$  (1:4) 100,  $\text{H}_3\text{PO}_4$  (21%) 50 ml. Mn was determined in this soln. by a persulphate/nitrite method; the Ni content of the deposit was calculated by difference. With baths containing  $\text{MnSO}_4 \cdot 5\text{H}_2\text{O}$  60-300,  $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$  40,  $(\text{NH}_4)_2\text{SO}_4$  75 g./l., and cathodic c.d. ( $D_c$ ) = 2.8 amp./dm.<sup>2</sup>, the Mn content of the deposit rose sharply to ~7% at 150 g./l.  $\text{MnSO}_4 \cdot 5\text{H}_2\text{O}$ , but remained const. at higher  $\text{MnSO}_4$  concentrations; the coatings were mirror-bright and possessed high chem. stability. With  $\text{MnSO}_4 \cdot 5\text{H}_2\text{O}$  150,  $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$  10 g./l., and  $D_c$  = 2.8 amp./dm.<sup>2</sup>, the Mn content of the deposit fell from 15 to 9% as the  $(\text{NH}_4)_2\text{SO}_4$  concn. of the bath rose from 20 to 75 g./l., the quality of the deposits being best at 60-75 g./l. Variation in  $D_c$  from 2.7 to 17.0 amp./dm.<sup>2</sup> with this type of bath had little effect on the Mn content of

the deposits, which were dense and bright; above 17.0 amp./dm.<sup>2</sup> the deposits were dark. A five-fold lowering of the Ni concentration in the bath resulted in only a 2% increase in the Mn content of the deposit. Further experiments were made using a diaphragm cell, the catholyte containing  $\text{MnSO}_4 \cdot 5\text{H}_2\text{O}$  150,  $(\text{NH}_4)_2\text{SO}_4$  75 g./l., and the anolyte  $\text{NiSO}_4 \cdot (\text{NH}_4)_2\text{SO}_4 \cdot 7\text{H}_2\text{O}$  saturated,  $(\text{NH}_4)_2\text{SO}_4$  75 g./l. For each value of  $D_c$  there is a definite catholyte pH at which there is a sudden jump in the Mn content of the deposit; with an increase in  $D_c$ , the jump in the % Mn/pH curve shifts into the more acid region. Thus at 5.4 amp./dm.<sup>2</sup>, there is a jump from 15 to 87% Mn at a catholyte pH = -8; at 10.8 amp./dm.<sup>2</sup>, from 32 to 98% Mn at a pH = -5. This rise is accompanied by a rise in the cathodic potential ( $\phi$ )/pH curve. Deposits with <33% Mn were only slightly less resistant to corrosion than those of Ni; deposits with >33% Mn quickly lost their lustre, but were more resistant than those of pure electrolytic Mn. Treatment of Mn-rich deposits with 5%  $\text{K}_2\text{Cr}_2\text{O}_7$  soln. preserved their lustre and increased their corrosion resistance.—G. V. E. T.

ASH-55A METALLURGICAL LITERATURE CLASSIFICATION

TSVETKOV, N.S., aspirant; YURZHENKO, A.I., professor.

Effect of promoter concentration on the speed of polymerization  
of styrene in an emulsion. Dop.ta pov.L'viv.un. no.3 pt.2:33-34  
'52. (MLRA 9:11)

(Styrene) (Polymers and polymerization)

TSVETKOV, N. S.

USSR/Chemistry - Cadmium

Aug 52

"Periodic Phenomena During the Electrodeposition of Cadmium in the Presence of Impurities," D. N. Gritsan and N. S. Tsvetkov, Khar'kov State U

Zhur Fiz Khim, Vol 26, No 8, pp 1110-1116

During the electrodeposition of Cd from simple salt solns contg dextrin or some other org colloidal and surface-active substance, a spontaneous periodic change in the cathode potential takes place, accompanied by changes in the strength of the circuit's current and the structure of the deposit. When spontaneous periodic oscillation of the cathode

263T5

potential takes place, there is a reduction of Cd ions at 2 greatly differing cathode potentials corresponding to 2 sharply different conditions of the cathode surface. A dense, lustrous Cd deposit forms at less negative potentials, whereas a loose, dark deposit forms at more negative potentials. The periodic oscillation of the cathode potential, and the whole aggregate of influences associated with it, takes place at a specific cd. It is surmised that the periodic, spontaneous oscillations of potential are caused by adsorption of impurities forming a dense adsorption film on the surface of the cathode. The film then periodically desorbs at sufficiently negative electrode potentials.

263T5

TSVETKOV, N. S.

USSR/Chemistry - Polymerization  
Peroxides

Aug 52

"The Effect of the Concentration of the Initiator on the Rate of Polymerization in Emulsions," A. I. Yurzhenko and N. S. Tsvetkov, L'vov State U

"DAN SSSR" Vol 85, No 5, pp 1099-1102

The effect of the concn of org and inorg peroxides on the rate of polymerization of styrene in emulsions at various pH of water and concn of emulsifier. The initiators used were potassium persulfate, sodium perborate, hydrogen peroxide, and dimethyldiphenylcarbinol hydrogen peroxide. With

239T29

the peroxide type of initiator, the polymerization rate first increases with increased concn of initiator, but then slows down. This is shown graphically by a max on the curve. Lowering the pH results in shifting the max to the side of increased concn of initiator. Submitted by Acad P. A. Rebinder 4 Jun 52.

239T29

TSVETKOV, N. S.

Dissertation: "Research Into the Kinetics of the Polymerization of Unsaturated Hydrocarbons in Emulsions." Cand Chem Sci, L'vov State U, L'vov 1953.

SO: Referativnyy Zhurnal, No. 5, Dec 1953, Moscow, AN USSR (N 5, 1953) ~~SECRET~~ W-30928



TSVETKOV, N-S

Combined effect of promoter and emulsifier on the rate of polymerization in emulsion. A. I. Yurzenko and N. S. Tsvetkov. *Sovetskii Khim. Nauch. Rabotakh Vsesoyuzn. Khim. Obshchestvo im. Mendeleeva* 1953, No. 1, 24-33; *Russ. J. Chem.* 1954, No. 12574; cf. *C.A.* 47, 7819c. — A formula is derived for the rate ( $v$ ) of polymerization in an emulsion. The 3 variations of it are:  $v = (k'/\sqrt{k_2})\sqrt{m}$ ,  $v = k_1 R_a m - \alpha k_1 R_a^2$ ,  $v = (k'/\sqrt{k_2})\sqrt{m} \sqrt{(1 + \alpha)k_1 k_2 m - \alpha k_1^2 m}$ , and  $v = (k'/\sqrt{k_2})\sqrt{m} \sqrt{k_1 c_a - (1 + \alpha)k_1 R_a^2}$ , where  $k'$ ,  $k_2$ ,  $k_1$ , and  $k_2$  are the consts. of the rate of reaction of growth, decompn. of promoter, break in the aq. phase, and bimol. break in the monomeric-polymeric particles, resp.;  $k_2$  is the const. of the rate of penetration of radicals into the micelles of the emulsifier or emulsion droplets;  $m$  is the concn. of micelles;  $R_a$  is concn. of free radicals in the aq. soln.;  $c_a$  is concn. of promoter;  $\alpha$  is the fraction of the inhibitor entering into reaction with the active chains of the polymer. Analysis of these equations shows: (1) there is a certain optimum concn. of the promoter at which  $v$  has the max. value; (2) as the value of the const. of the rate of promoter decompn. increases, the max. on the curve  $v$  vs.  $c_a$  shifts toward smaller concns. of the promoter; (3) at high concn. of the emulsifier the rates of polymerization are detd. by the rate of free-radical formation in the aq. phase of the emulsion; and (4) the higher the micellar wt. of the emulsifier, the greater is the rate of polymerization, everything else being equal.

M. Hosh

MA  
2/2

**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757220006-1**

**APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757220006-1"**

TSVETKOV, N.S.; YURZHENKO, A.I.

Concentration of the emulsifier as a kinetic factor during polymerization  
in emulsions. Koll.zhur. 15 no.4:308-315 '53. (MLRA 6:8)

1. L'vovskiy gosudarstvennyy universitet imeni I.Franko. Kafedra fiziche-  
skoy i kolloidnoy khimii. (Polymers and polymerization) (Emulsions)

✓ Combined effect of emulsifier and initiator on the rate of polymerisation in emulsions. A. I. Yurzenko and N. S. Tsvetkov (Dokl. Akad. Nauk. SSSR, 1953, 90, 421-424).—In the emulsion polymerisation of styrene, the limiting rate of polymerisation ( $I$ ) and the concn. of emulsifier at which it is attained, decreases with the concn. of  $K_2S_2O_8$  initiator;  $I$  also increases with decrease in the micellar weight of the emulsifier. The mol. wt. of the polymer increases with the emulsifier concn. R. C. MURRAY.

7  
Effect of inorganic salts on the polymerization of styrene in an emulsion

*TSVETKOV, N. S.*

USSR/Chemistry of High Molecular Substances.

F

Abs Jour : Referat Zhurnal Khimiya, No 6, 1957, 19442.

Author : N.S. Tsvetkov, A.I. Yurzhenko.

Inst :

Title : Influence of Inorganic Salts on Process of Polymerization of Styrene in Emulsion.

Orig Pub : Kolloid, Zh., 1956, 18, No 3, 362-368.

Abstract : The influence of  $\text{Na}_2\text{SO}_4$  and  $\text{KCl}$  (in quantities of up to 0.1 - 0.02 g-equ/l.) on the speed of the emulsion polymerization of styrene in presence of initiators -  $\text{K}_2\text{S}_2\text{O}_8$ , dimethylphenylcarbinol hydroperoxide (I) and benzoyl peroxide (II) - and of the emulsifier saltless Nekal, as well as their influence on the molecular weight of the polymere were studied by the dilatometric and viscosimetric methods. The polymerization speed curves in presence of  $\text{K}_2\text{S}_2\text{O}_8$  and I depending on the concentration of salts possess a maximum (at 0.02 - 0.03 g-equ/l) that is the sharper the higher the con-

Card 1/2

-18-

USSR/Chemistry of High Molecular Substances.

F

Abs Jour : Referat. Zhurnal Khimiya, No 6, 1957, 19442.

centration of the initiator and Ph of the aqueous phase are. The authors explain the discovered phenomena by the influence of salts on the colloidal solubility of the monomers. In presence of II, the salts do not influence the polymerization speed within the limits of the studied concentrations. The molecular weight curve of polystyrene depending on the salt content in the polymerized mixture also passes through a maximum corresponding to the salt concentration of 0.01 - 0.04 g-equ/l.

Card 2/2

-19-

**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757220006-1**

**APPROVED FOR RELEASE: 04/03/2001**

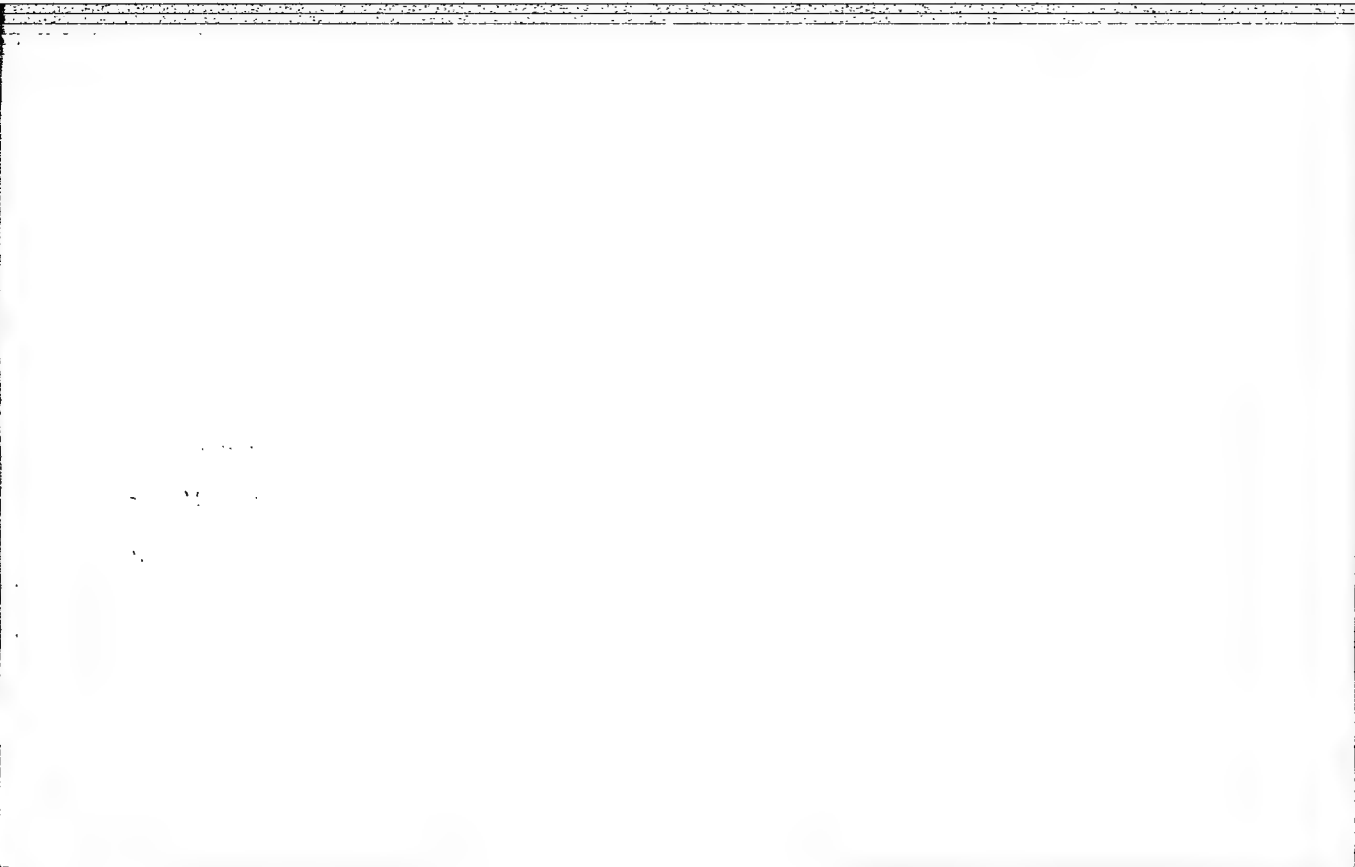
**CIA-RDP86-00513R001757220006-1"**





**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757220006-1**



**APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757220006-1"**

TSVETKOV, N.S.; MARKOVSKAYA, R.F.

High degree of polymerization of styrene and methyl methacrylate  
in the presence of polymeric peroxides. Vysokom.soed. 7 no.1:169-  
174 Ja '65. (MIRA 18:5)

1. L'vovskiy gosudarstvennyy universitet imeni Franko.

TSVETKOV, N.S.; BELETSKAYA, Ye.S.

Mechanism and kinetics of styrene polymerization in the  
presence of polymeric peroxide of pimelic acid. Ukr. khim.  
zhur. 31 no.4:387-392 '65. (MIRA 18:5)

1. L'vovskiy gosudarstvennyy universitet imeni Ivana Franko.

TSVETKOV, N.S.; MARKOVSKAYA, R.F.

Use of the polymeric peroxide of sebacic acid in the synthesis  
of polystyrene and block copolymers. Vysokom. soed. 6 no.11:  
2051-2056 N '64 (MIRA 18:2)

1. L'vovskiy gosudarstvennyy universitet imeni Ivana Franko.

TSVETKOV, N.S.

Core breakers of new construction. Kazved. 1 vol. no. 36  
no. 2:52 F '64. (MIRA 17:8)

1. Starobinskaya geologozvedochmaya partiya.

SOURCE: Ukrainskiy khimicheskiy zhurnal. V. 51, NO. 3, 1999, 501-502

Card 1/2

L 529. - 17  
ACCESSION NR. AT 701121

leads to a rapid consumption of the initiator and hence to a considerable slowing down of the

OF THE REACTION

NO REF SOV. 003

OTHER



TSVETKOV, N.S.; BELETSKAYA, Ye.S.

Kinetics of mass polymerization of styrene under the effect of  
polymeric peroxide of azelaic acid. Ukr.khim.zhur. 29 no.12:  
1289-1294 '63. (MIRA 17:2)

1. L'vovskiy gosudarstvennyy universitet im. Ivana Franko.

TSVETKOV, N.S.; BELETSKAYA, Ye.S.

Polymeric peroxides of dibasic organic acids. Ukr. khim.  
zhur. 29 no.10:1072-1075 '63. (MIRA 17:1)

1. L'vovskiy gosudarstvennyy universitet im. Ivana Franko.

TSVETKOV, N.S.; GLOTOVA, Z.F.

Effect of the electrolyte phase composition on electrochemical polymerization. Vysokom.soed. 5 no.7:997-1001 J1 '63.

(MIRA 16:9)

1. L'vovskiy ordena Lenina gosudarstvennyy universitet imeni Ivana Franko.

(Unsaturated compounds) (Polymerization) (Electrolysis)

TSVETKOV, N.S.; FAGARASH, M.B.

Polymerization of styrene induced by polymeric adipinyl peroxide.  
Vysokom.soed. 5 no.7:1002-1007 JI '63. (MIRA 16:9)

1. L'vovskiy ordena Lenina gosudarstvennyy universitet imeni  
Ivana Franko.  
(Styrene) (Polymerization)

L 14949-63

EWP(j)/EPF(c)/EWP(m) BDF

3/0190.63/0057 1002/1007

AUTHORS: Tavetkov, N. S.; Fagarash, M. B.

TITLE: Polymerization of styrene induced by polymeric adipinyl peroxide<sup>1</sup>

SOURCE: Vyssokomolekulyarnyye soedineniya, v. 5, no. 7, 1963, 1002-1007

TOPIC TAGS: styrene, polymerization, adipinyl peroxide, initiator, peroxide

ABSTRACT: Adipinyl peroxide was selected as an initiator in the radical polymerization of styrene because of favorable results obtained with other polymeric peroxides of aliphatic dicarboxylic acids. The synthesis of polymeric adipinyl peroxide yielded a light white powder (insoluble in the usual organic solvents and in water) which possessed explosive properties. The thermal decomposition of a 1% adipinyl peroxide solution in benzene was conducted in sealed ampules at 65, 70, and 75C for periods up to 10 hours, and the amounts of undecomposed peroxide determined at various intervals. The results showed that the decomposition of peroxide proceeded at a linear rate. The results of kinetic measurements of the styrene polymerization process in the presence of 0.1-0.8% adipinyl peroxide for periods up to 10 hours indicate an increased polymerization rate with time and concentration of the initiator, the reaction proceeding at a linear rate in respect to the square root

Card 1/2

L 14949-63

ACCESSION NR: AP3003789

of the initiator's concentration. It was calculated that within the 65-75C temperature interval the effective (summary) energy of summary styrene activation amounted to  $28.1 \pm 1.2$  kcal/mol. Orig. art. has: 5 charts and 1 table.

ASSOCIATION: L'vovskiy ordena Lenina gosudarstvennyy universitet im. Ivana Franko (L'vov State University)

SUBMITTED: 11Dec61

DATE ACQ: 08Aug63

ENCL: 00

SUB CODE: CH

NO REF SOV: 001

OTHER: 004

Card 2/2

TSVETKOV, N.S.

Polymerization kinetics of styrene in the presence of phthaloyl peroxide. Vysokom.sped. 3 no.3:408-413 Mr '61. (MIRA 14:6)

1. L'vovskiy gosudarstvennyy universitet imeni Ivana Franko.  
(Styrene) (Polymerization) (Phthaloyl peroxide)

TSVETKOV, N.S.

Polymerization of methyl methacrylate under the influence of cathodic hydrogen. Vysokom. soed. 3 no.4:549-554 Ap '61. (MIRA 14:4)

1. L'vovskiy gosudarstvennyy universitet imeni I. Franko.  
(Methacrylic acid) (Polymerization)



S/190/61/003/003/005/014  
B101/B204

AUTHOR: Tsvetkov, N. S.

TITLE: The kinetics of styrene polymerization in the presence of phthaloyl peroxide

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 3, 1961, 408-413

TEXT: The present paper is to explain the kinetics of styrene polymerization initiated by a polymeric peroxide (phthaloyl peroxide) which forms biradicals during its thermal disintegration. The paper is based on studies made by H. Y. Shah, F. Leonard, A. V. Tobolsky (Ref. 2: J. Polymer Sci., 7, 537, 1951) and B. Zimm, J. Bragg (Ref. 5: J. Polymer Sci., 9, 476, 1952). Polymerization of the purified styrene was brought about in glass dilatometers with magnetic stirrer by means of phthaloyl peroxide synthesized from phthalchloride and sodium peroxide. The results are presented in Fig. 1. Although phthaloyl peroxide is insoluble in styrene, a linear dependence of the polymerization rate on the square root of the peroxide concentration was found (Fig. 2). The author assumes

Card 1/6

d

The kinetics of styrene ...

S/190/61/003/003/005/014  
B101/204

formation of radicals from the thermal decomposition of phthaloyl peroxide, that initiate the reaction. The decomposition is proportional to the peroxide concentration, but is no linear function of time since in the beginning a large number of weak bonds rupture rapidly while the rupture of stronger bonds occurs later and more slowly. This explains the gradual slowing down of polymerization. The total activation energy was found to be  $18.1 \pm 0.5$  kcal/mole. The activation energy of initiation was 23.2 kcal/mole and thus by 6.4 kcal/mole less than that of benzoyl peroxide. The slower polymerization by means of phthaloyl peroxide is due to its insolubility. Table 2 gives the intrinsic viscosity of polystyrene at various peroxide concentrations. The decrease in intrinsic viscosity at higher peroxide concentrations is explained by an accelerated radical formation which leads to a higher yield of the polymer, but with lower molecular weight. The polymerization was found to proceed also after the solid phase had vanished. The author supposes formation of peroxide radicals from fractures of the polymeric phthaloyl peroxide. Since heating the polymer for some time (3 hr at  $100^{\circ}\text{C}$ ) leads to an only slight decrease in intrinsic viscosity, the author assumes a thermal decomposition of some few peroxide radicals that are constituents of polystyrene.

Card 2/6

The kinetics of styrene...

S/190/61/003/003/005/014  
B101/B204

Polymerization with water (in which the peroxide is also insoluble) predominantly took place in the aqueous phase under formation of a latex. T. A. Martynenko took part in the experiments. There are 2 figures, 2 tables, and 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc. The 2 references to English-language publications are given in the text of the abstract.

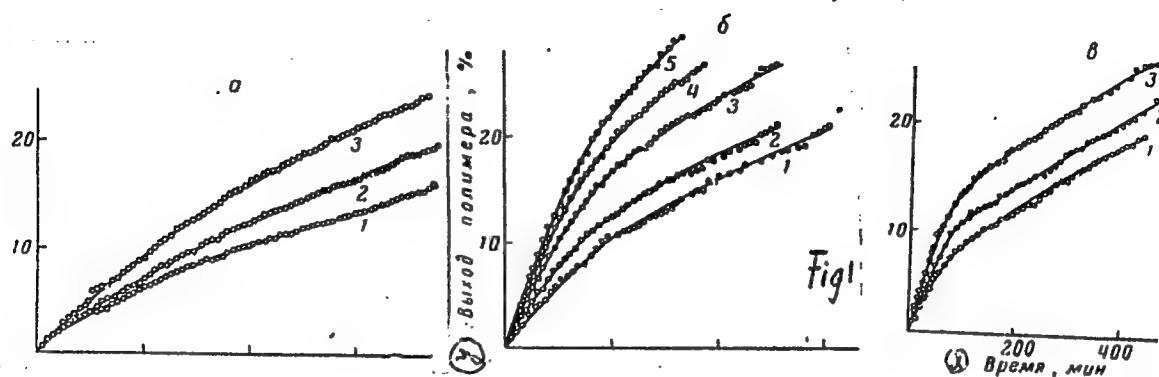
ASSOCIATION: L'vovskiy gosudarstvennyy universitet im. Ivana Franko  
(L'vov State University imeni Ivan Franko)

SUBMITTED: July 5, 1960

Card 3/6

The kinetics of styrene...

S/190/61/003/003/005/014  
B101/B204



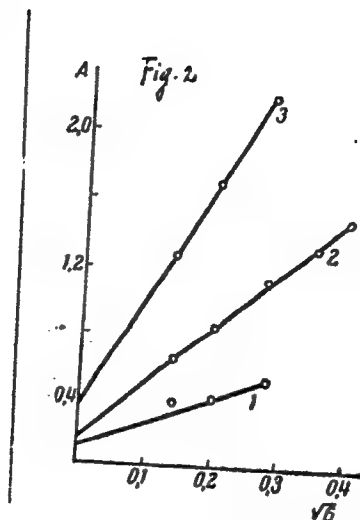
Legend to Fig. 1: a) 75°C; б) 85°C; в) 95°C; x) time, hr;  
y) polymer yield; content in phthaloyl peroxide, %: 1) 0.2; 2) 0.4;  
3) 0.8; 4) 1.2; 5) 1.6.

Card 4/6

The kinetics of styrene...

Legend to Fig. 2: A) Polymer yield, %/min; B) phthaloyl peroxide concentration.

S/190/61/003/003/005/014  
B101/B204



Card 5/6

The kinetics of styrene...

S/190/61/003/003/005/014  
B101/B204

Таблица 2  
Значимость характеристической вязкости полистирола от концентрации перекиси  
фталонла

(1) Концентрация инициатора в реакционной смеси, %	(2) Темпера- тура поли- мериза- ции, °C	(3) Глубина полимери- зации, %	(4) Характери- стическая вязкость по- листирола	(1) Концентрация инициатора в реакционной смеси, %	(2) Темпера- тура поли- мериза- ции, °C	(3) Глубина полимери- зации, %	(4) Характери- стическая вязкость по- листирола
0,2	75	16,1	1,70	1,2	85	26,8	0,98
0,4	75	19,8	1,28	1,6	85	29,3	1,00
0,8	75	24,4	0,92	0,2	95	19,4	1,40
0,2	85	21,2	1,58	0,4	95	23,0	1,32
0,4	85	21,2	1,31	0,8	95	26,8	1,14
0,8	85	26,9	1,10				

Legend to Table 2: 1) Initiator concentration; 2) temperature of polymerization; 3) intensity of polymerization; 4) intrinsic viscosity.

Card. 6/6

TSVETKOV, N.S.; ZARECHNYUK, O.S.

Coppering aluminum by contact reduction. Zhur.prikl.khim.  
33 no.3:636-644 Mr '60. (MIRA 13:6)

1. Ukrainskiy poligraficheskiy institut imeni Ivana Fedorova.  
(Copper plating) (Aluminum)

5.2200,5.2100,18.7400

78222

SOV/80-33-3-23/47

AUTHORS: Tsvetkov, N. S., Zarechnyuk, O. S.

TITLE: Copperizing of Aluminum with Contact Reduction

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3,  
pp 636-644 (USSR)

ABSTRACT: This study was suggested by N. V. Slavinskiy of the Ivan Fedorov Ukrainian Polygraphic Institute and is part of the work on the technological development of the production of bimetallic offset printing plates copperized with ethanol solutions of copper salts. ADIN aluminum sheets and cupric shloride were used in the experiments. The amount of copper reduced on the aluminum surface increased linearly with the water content of the solution. The thickness of the copper deposit grew with increasing  $\text{CuCl}_2$  concentration to a maximum and then decreased gradually. This maximum was most pronounced with solutions of higher water content (4.5%). The above phenomenon can be explained by the two-stage

Card 1/3

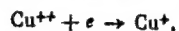


Copperizing of Aluminum with Contact  
Reduction

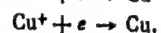
78222

SOV/80-33-3-23/47

reduction of bivalent copper which proceeds as follows:



(a)



(b)

Hence, at higher concentrations of bivalent copper ions (high  $\text{CuCl}_2$  concentration, presence of water)

the latter are reduced predominantly to univalent ions, and the amount of copper reduced to metal decreases.

An increased, and then decreased, reaction rate was observed at the beginning of the process. This was due to two counteracting reactions: (1) the dissolution of the passive oxide film on the aluminum surface, and (2) the sharp decrease in the oxidizing activity of the solution due to the growing concentration of aluminum ions. After this initial period, the rate of reduction remained practically constant and was not influenced by the thickness of the copper deposit. The rate of

reduction in the range of 0-30° C increased slowly; a sharp increase of the reaction rate occurred above

30° C. The uniformity and the strength of the deposit

Card 2/3

Copperizing of Aluminum with Contact  
Reduction

78222

SOV/80-33-3-23/47

depended on the finish of the aluminum surface and was highest on smooth surfaces. There are 6 figures; and 20 references, 2 U.S., 3 U.K., 1 German, 1 East German, 13 Soviet. The U.S. and U.K. references are: L. D. Goddeyne, G. Dennis, Light Metals, 56 (Feb., 1955); Modern Lithographer a. Offset Printer, 52, 28 (1956); J. Iorgencan, The American Pressman, 12, 14 (1956); The British Printer 44 (June, 1956).

ASSOCIATION: Ivan Fedorov Ukrainian Polygraphic Institute (Ukrainskiy poligraficheskiy institut imeni Ivana Fedorova)

SUBMITTED: March 3, 1959

Card 3/3

GRITSAN, D.N.; TSVETKOV, N.S.

Conditions of simultaneous electroplating of manganese and chromium.  
Nauk. zap. L'viv. un. 13:77-82 '49. (MIRA 12:10)

1. Kafedra fizicheskoy i kolloidnoy khimii L'vovskogo gosudarstvennogo  
universiteta imeni I. Franko.  
(Electroplating)

1342 TR-4, N.V.  
MASLYAKOV, Vasilii Nikolayevich; TSVETKOV, N.V., retsenzent [deceased];  
SHARAPOV, N.I., retsenzent; PAVLOV, V.F., red.; DOBROMRAVOVA, S.M.,  
red.izd-va; SALAZKOV, N.P., tekhn.red.

[Manual for workers receiving and delivering rafts in lumber floating]  
Posobie priemosdatchiku plotov na rechnom transporte. Moskva, Izd-vo  
"Rechnoi transport," 1957. 165 p. (MIRA 11:3)  
(Lumber--Transportation)